

REMARKS

Claim 1 is amended, leaving claims 1-9 pending, with claim 1 being independent.

In the Office Action, the Examiner has rejected claims 1-3 and 7-8 under 35 U.S.C. § 103(a) as being obvious over U.S. Patent Publication No. 2003/0142174 to Boyd et al. in view of U.S. Patent Publication No. 2003/0137565 to Sakuma. Additionally, the Examiner has rejected claims 4-6 under 35 U.S.C. § 103(a) as being unpatentable over the Boyd et al. publication in view of U.S. Patent Publication No. 2004/0032468 to Killmeier et al. Lastly, the Examiner has rejected claim 9 under 35 U.S.C. § 103(a) as being unpatentable over the Boyd et al. publication in view of U.S. Patent No. 5,975,687 to Powers.

Applicants have carefully reviewed the rejections, and respectfully request reconsideration in view of the above amendments and the following remarks.

I. Rejection of claims 1-3 and 7-8 under 35 U.S.C. § 103(a)

Claims 1-3 and 7-8 stand rejected under 35 U.S.C. § 103(a) as being obvious over the Boyd et al. publication in view of the Sakuma publication. As recognized by the Examiner, the Boyd et al. publication does not disclose the limitation recited in claim 1 of “the receiving part having an ink feed hole including a dam on its circumference to support the head chip, and a secondary dam of the same height as the dam which also supports the head chip.” The Examiner, however, alleges that the Sakuma publication discloses a “receiving part having an ink feed hole including a dam (17 of Figure 3B) on its circumference to support the head chip (11 of Figure 3B), and a secondary dam of the same height as the dam which also supports the head chip (11), and an ink chamber disposed therein (21) (Figure 3B), for the purpose of improving the quality of printing,” and that it would have been obvious to combine the teachings of the Sakuma publication with the teaching of the Boyd et al. publication.

Applicant respectfully asserts that claim 1 is not obvious in view of the Boyd et al. and Sakuma publications, alone or in any permissible combination, for two reasons. First, the Sakuma publication does not disclose any dams, and second, the Examiner’s proposed combination would render the Boyd et al. device unsuitable for its intended purpose.

Turning to the first point, claim 1 requires “a housing comprising a receiving part ... the receiving part having an ink feed hole including a dam on its circumference to support the head chip, and a secondary dam of the same height as the dam which also supports the head chip”

That is, claim 1 requires a dam which is located on a receiving part of a housing, and claim 1 requires that a dam supports the head chip. Examples of these features can be seen in FIG. 5B, where the dams 17a and 55 are formed to support the head chip 21, and the receiving part 50 of the housing 10 is formed to have the dam 17a around the ink feed hole 17.

The Examiner alleges that the Sakuma publication discloses a “receiving part having an ink feed hole including a dam (17 of Figure 3B) on its circumference to support the head chip (11 of Figure 3B), and a secondary dam of the same height as the dam which also supports the head chip (11), and an ink chamber disposed therein (21) (Figure 3B).” The alleged dam (element 17), however, is part of the head chip 11. That is, at ¶¶ 43-59, the Sakuma publication discusses the head chip 11. In that passage, the Sakuma publication explains that the head chip 11 is formed of a piezoceramic plate 16 having chambers 17 with side walls 18. Accordingly, element 17 is a chamber in the head chip, and is not a dam disposed around an ink feed hole located on a receiving part of a housing, as required by claim 1.

With respect to the alleged “secondary dam,” the Examiner has not specifically pointed out any element in support of the allegation that the Sakuma publication discloses a secondary dam.

In fact, the Sakuma publication does not disclose any details regarding the connection between the head chip 11 and the housing (i.e. base plate 12 and head cover 13) which supports the head chip. Instead, the Sakuma publication merely states that base plate 12 and the head cover 13 are used to sandwich the head chip 11, and that an ink introducing channel 29 is provided in the head cover 13 to supply ink to the head chip 11. *See* Sakuma publication at ¶ 61. The Sakuma publication does not disclose any dams on these components. In particular, it does not disclose any dams on the circumference of ink introducing channel 29.

In sum, the alleged dam (element 17) of the Sakuma publication is a chamber in the head chip 11, and the Sakuma publication does not disclose any dams located on a receiving part of a housing, as required by claim 1. Thus, since neither the Sakuma publication or the Boyd et al. publication discloses a dam located on a receiving part of a housing, the proposed combination of the Sakuma publication with the Boyd et al. does not disclose or suggest all of the limitations of claim 1.

That is, claim 1 requires a dam which is located on a receiving part of a housing, and claim 1 requires that a dam supports the head chip. Examples of these features can be seen in FIG. 5B, where the dams 17a and 55 are formed to support the head chip 21, and the receiving part 50 of the housing 10 is formed to have the dam 17a around the ink feed hole 17.

The Examiner alleges that the Sakuma publication discloses a “receiving part having an ink feed hole including a dam (17 of Figure 3B) on its circumference to support the head chip (11 of Figure 3B), and a secondary dam of the same height as the dam which also supports the head chip (11), and an ink chamber disposed therein (21) (Figure 3B).” The alleged dam (element 17), however, is part of the head chip 11. That is, at ¶¶ 43-59, the Sakuma publication discusses the head chip 11. In that passage, the Sakuma publication explains that the head chip 11 is formed of a piezoceramic plate 16 having chambers 17 with side walls 18. Accordingly, element 17 is a chamber in the head chip, and is not a dam disposed around an ink feed hole located on a receiving part of a housing, as required by claim 1.

With respect to the alleged “secondary dam,” the Examiner has not specifically pointed out any element in support of the allegation that the Sakuma publication discloses a secondary dam.

In fact, the Sakuma publication does not disclose any details regarding the connection between the head chip 11 and the housing (i.e. base plate 12 and head cover 13) which supports the head chip. Instead, the Sakuma publication merely states that base plate 12 and the head cover 13 are used to sandwich the head chip 11, and that an ink introducing channel 29 is provided in the head cover 13 to supply ink to the head chip 11. *See* Sakuma publication at ¶ 61. The Sakuma publication does not disclose any dams on these components. In particular, it does not disclose any dams on the circumference of ink introducing channel 29.

In sum, the alleged dam (element 17) of the Sakuma publication is a chamber in the head chip 11, and the Sakuma publication does not disclose any dams located on a receiving part of a housing, as required by claim 1. Thus, since neither the Sakuma publication or the Boyd et al. publication discloses a dam located on a receiving part of a housing, the proposed combination of the Sakuma publication with the Boyd et al. publication does not disclose or suggest all of the limitations of claim 1.

suggests the limitation of "the receiving part having an ink feed hole including a dam on its circumference to support the head chip, and a secondary dam of the same height as the dam which also supports the head chip."

As recognized by the Examiner, the Boyd et al. publication does not disclose this limitation. Neither the Killmeier et al. publication nor the Powers patent discloses or suggests this limitation either. Accordingly, the proposed combination of the Boyd et al. publication and the Killmeier et al. publication does not meet the limitations of claims 4-6, and the proposed combination of the Boyd et al. publication and the Powers patent does not meet the limitations of claim 9. Thus, these claims are allowable.

III. Conclusion

In view of the above, it is believed that the above-identified application is in condition for allowance, and notice to that effect is respectfully requested. Should the Examiner have any questions, the Examiner is encouraged to contact the undersigned at the telephone number indicated below.

Date: April 10, 2006

Respectfully submitted,



Michael E. Stimson

Reg. No. 41, 333

Attorney for Applicant

Roylance, Abrams, Berdo & Goodman, L.L.P.
1300 19th Street, N.W., Suite 600
Washington, D.C. 20036-2680
Main: (202) 659-9076
Direct: (202) 530-7372